

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): An expandable tubular joint, comprising:

a first tubular element comprising

a first part, provided with a male thread, and

a second part extending said first part and comprising

i) a first outer surface,

ii) a first annular lip having a first axial abutment surface and a first inner surface and delimited by said first outer surface over a part of the axial length thereof, and

iii) a second abutment surface, and

a second tubular element comprising

i) a female thread, matching the male thread and screwed thereto,

ii) a second annular lip having a third abutment surface, a second outer surface, arranged to face said first inner surface, and a second inner surface,

iii) a fourth axial abutment surface, and

iv) a third inner surface extending between said fourth axial abutment surface and said female thread and defining with said second outer surface and said fourth abutment surface an annular recess corresponding to said first lip,

wherein said first tubular element comprises a selected local annular added thickness in the region of a fourth inner surface extending the second abutment surface and the local annular added thickness decreases in thickness in an axial direction extending toward the male thread of the first tubular element,

wherein said second tubular element comprises, at a selected location of said third inner surface, an inner annular groove

that faces, in a radial direction, said first outer surface and  
that faces, ~~in the radial direction,~~ lies in the same axial region as the local  
annular added thickness ~~in the region of the fourth inner surface,~~ and  
wherein said first and second tubular elements are shaped in such a way that said first  
lip is accommodated in said annular recess, and

(i) said second abutment surface rests against said third abutment surface or (ii) said  
first abutment surface rests against said fourth abutment surface so as to allow,

during a diametral expansion involving plastic deformation subsequently carried out  
on the expandable tubular joint, the formation, in the region of said first outer surface, of an  
annular shoulder having at least a part of the shape of the groove and being in sealing  
interference contact therewith.

Claim 2 (Previously Presented): A joint according to claim 1, wherein said first and  
second tubular elements are shaped in such a way that, after said expansion, another sealing  
interference contact is defined between an inner end part of said first lip and said second  
outer surface.

Claim 3 (Previously Presented): A joint according to claim 1, wherein said local  
annular added thickness increases in the direction of said second abutment surface.

Claim 4 (Currently Amended): A joint according to claim 3, wherein said local  
annular added thickness increases ~~substantially~~ continuously at a slope between  
approximately 5° and approximately 30°.

Claim 5 (Previously Presented): A joint according to claim 1, wherein said first tubular element initially has in the region of said first part, over its inner surface opposing said male thread, a conical neck in which is defined a local annular set-back.

Claim 6 (Currently Amended): A joint according to claim 5, wherein said neck increases ~~substantially~~ continuously at a slope relative to the longitudinal direction of between approximately 2° and approximately 20°.

Claim 7 (Currently Amended): A joint according to claim 3, wherein a maximum added thickness of the second ~~portion~~ part is initially less than a value selected as a function of a diameter of a drift.

Claim 8 (Previously Presented): A joint according to claim 3, wherein said second inner surface of the second lip initially has a selected local annular added thickness in a zone adjacent to said third abutment surface, so as to increase the deformation of said first lip in the direction of said groove during the expansion.

Claim 9 (Previously Presented): A joint according to claim 8, wherein said added thickness of the second lip is less than the added thickness of the first tubular element.

Claim 10 (Previously Presented): A joint according to claim 8, wherein said added thickness of the second lip is initially less than a value selected as a function of a diameter of a drift.

Claim 11 (Previously Presented): A joint according claim 1, wherein said second tubular element initially has a ratio between an extension of said second lip in the longitudinal direction and an extension of said recess in a transverse plane of between approximately 1 and approximately 3.

Claim 12 (Previously Presented): A joint according to claim 1, wherein said groove initially comprises at least two curvilinear portions.

Claim 13 (Previously Presented): A joint according to claim 12, wherein said curvilinear portions initially have substantially identical radii of curvature.

Claim 14 (Previously Presented): A joint according to claim 13, wherein said radius of curvature is initially between approximately 2 mm and approximately 20 mm.

Claim 15 (Previously Presented): A joint according to claim 12, wherein the two curvilinear portions are separated by a substantially cylindrical central portion.

Claim 16 (Currently Amended): A joint according to claim 12, wherein at least one of the first and second tubular elements forms part of a great length tube and ~~in that~~ said groove initially has a radial depth, the maximum value of which is selected such that the material section at the bottom of the groove is greater than the ~~product of the smallest of the~~ critical sections of the threaded elements ~~section of a common portion of said tube or tubes,~~ and ~~the efficiency of the joint under tension.~~

Claim 17 (Currently Amended): A joint according to claim 1, wherein said male and female threads are selected from a group consisting of ~~conical type and cylindrical type~~ conical and cylindrical threads and are each formed over at least one tubular element portion.

Claim 18 (Previously Presented): A joint according to claim 1, wherein said first and second tubular elements are shaped in such a way that, after screwing, said first lip is axially compressed in an elastic deformation region.

Claim 19 (Previously Presented): A joint according to claim 1, wherein said first and second tubular elements are shaped in such a way that, during said screwing, said first abutment surface rests against said fourth abutment surface, then said second abutment surface rests against said third abutment surface.

Claim 20 (Previously Presented): A joint according to claim 19, wherein said second and third abutment surfaces initially have convex and concave conical surfaces respectively having substantially identical inclinations relative to a plane transverse to the longitudinal direction so as to allow a sealing interference contact between said first inner surface and said second outer surface after said screwing and prior to said expansion.

Claim 21 (Previously Presented): A joint according to claim 20, wherein said inclinations are initially between approximately  $+5^{\circ}$  and approximately  $+30^{\circ}$ .

Claim 22 (Previously Presented): A joint according to claim 1, wherein said first inner surface of the first lip is initially inclined relative to said longitudinal direction by an angle of between approximately  $0.1^{\circ}$  and approximately  $15^{\circ}$ .

Claim 23 (Previously Presented): A joint according to claim 1, wherein said male and female threads initially comprise threads provided with a carrier flank having a negative angle of between approximately  $-3^{\circ}$  and approximately  $-15^{\circ}$ .

Claim 24 (Previously Presented): A joint according to claim 1, wherein said male and female threads initially comprise threads provided with a stabbing flank having a positive angle of between approximately  $+10^{\circ}$  and approximately  $+30^{\circ}$ .

Claim 25 (Previously Presented): A joint according to claim 24, wherein said male and female threads have, after screwing and prior to expansion, an axial clearance between their stabbing flanks of between approximately 0.05 mm and approximately 0.3 mm.

Claim 26 (Previously Presented): A joint according to claim 1, wherein said first tubular element initially has, in the region of said first outer surface and before said first part, a conical chamfer defining a local annular set-back sloping radially inward.

Claim 27 (Currently Amended): A joint according to claim 26, wherein said chamfer has a ~~substantially continuous~~ constant slope relative to the longitudinal direction of between approximately  $8^{\circ}$  and approximately  $12^{\circ}$ .

Claim 28 (Previously Presented): A joint according to claim 1, wherein the second outer surface of the second lip initially has, in the region of its connection to said third abutment surface, an annular portion inclined relative to said longitudinal direction by an angle of between approximately  $8^{\circ}$  and approximately  $12^{\circ}$ .

Claim 29 (Previously Presented): A joint according to claim 1, wherein said first tubular element is provided with a first rounded outer surface.

Claim 30 (Currently Amended): A joint according to claim 1, wherein said second tubular element forms part of a ~~substantially~~ symmetrical ~~female/female-type~~ female/female connection sleeve and said first tubular element forms part of an end of a great length tube.

Claim 31 (Currently Amended): A joint according to claim 30, wherein said sleeve comprises a central portion extended on either side by two second tubular elements and initially provided, over an outer surface, with an annular zone having a reduced thickness selected such that the initial thickness of said sleeve in the region of this zone is greater than or equal to the smallest of the critical sections of the threaded elements ~~the product of the section of a common portion of the tubes, at the ends of which are formed said first tubular element, and the efficiency of the joint.~~

Claim 32 (Withdrawn): Method for producing an expanded tubular joint, said expandable tubular joint including a first tubular element comprising a first part, provided with a male thread, and a second part extending said first part and comprising i) a first outer surface, ii) a first annular lip having a first axial abutment surface and a first inner surface and delimited by said first outer surface over a part of the axial length thereof, and iii) a second abutment surface, and a second tubular element comprising i) a female thread, matching the male thread and screwed thereto, ii) a second annular lip having a third abutment surface, a second outer surface, arranged to face said first inner surface, and a second inner surface, iii) a fourth axial abutment surface, and iv) a third inner surface extending between said fourth

axial abutment surface and said female thread and defining with said second outer surface and fourth abutment surface an annular recess corresponding to said first lip, wherein said first tubular element comprises a selected local annular added thickness in the region of a fourth inner surface extending the second abutment surface, wherein said second tubular element comprises, at a selected location of said third inner surface, an inner annular groove arranged to face, in a radial direction, said first outer surface and of said annular added thickness, and wherein said first and second tubular elements are shaped in such a way that said first lip is accommodated in said annular recess, and

(i) said second abutment surface rests against said third abutment surface or (ii) said first abutment surface rests against said fourth abutment surface so as to allow,

during a diametral expansion involving plastic deformation subsequently carried out on the expandable tubular joint, the formation, in the region of said first outer surface, of an annular shoulder having at least a part of the shape of the groove and being in sealing interference contact therewith, said method comprising:

screwing said first and second tubular elements until the second abutment surface rests against the third abutment surface or the first abutment surface rests against the fourth abutment surface and said first lip is accommodated in said annular recess, and

subjecting said expandable tubular joint to a diametral expansion in the plastic deformation region, so as to define, in the region of said first outer surface, an annular shoulder having at least a portion of the shape of the groove and being in sealing interference contact therewith.

Claim 33 (Withdrawn): A method according to claim 32, wherein said expansion defines another sealing interference contact between an inner end portion of said first lip and said second outer surface.



Claim 34 (Withdrawn): A method according to claim 32, wherein said screwing firstly forces said first abutment surface to be pressed against said fourth abutment surface so as to cause said first lip to be subjected to axial compression in the elastic deformation region.

Claim 35 (Withdrawn): A method according to claim 32, wherein said screwing is carried out until said first abutment surface rests against said fourth abutment surface, then until said second abutment surface rests against said third abutment surface.

Claim 36 (Withdrawn): A method according to claim 32, wherein the radial expansion of the joint takes place at an expansion rate at least equal to 10%.

Claim 37 (Currently Amended): A joint according to claim 3, wherein said local annular added thickness increases ~~substantially~~ continuously at a slope between approximately 10° and approximately 20°.

Claim 38 (Previously Presented): A joint according claim 1, wherein said second tubular element initially has a ratio between an extension of said second lip in the longitudinal direction and an extension of said recess in a transverse plane of between approximately 1.2 and approximately 1.6.

Claim 39 (Previously Presented): A joint according to claim 1, wherein the second outer surface of the second lip initially has, in the region of its connection to said third

abutment surface, an annular portion inclined relative to said longitudinal direction by an angle of approximately  $10^{\circ}$ .